Foxford Learning Plan

YEAR 11

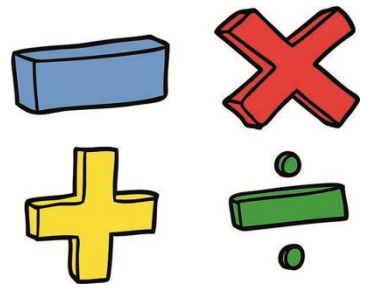
Topic: Volume and Surface Area of Prisms, Arcs, Sectors, Graphs, Iterations

Key Vocabulary

Surface Area	The total outside area of a given shape.
Vertical and Slant Height	Vertical height is the distance from the top to the base of a shape. The slant height is the distance along the lateral face of a shape (such as a cone).
Frustum	A portion of a solid (generally a cone or a pyramid).
Arc Length	The length along a part of the circumference of the circle.
Sector of a circle	A portion of the circle enclose between two radii.
Circle Segment	The area between a chord and its associated arc.
Convergence	Approaching the limit more and more closely.
Divergence	Does not settle towards a fixed value.
Turning point	Describes a point where a curve changes direction.
Cubic curve	A curve with two changes of directions.

Key Skills

Over the course of the topic, I will be able to: -
Evaluate the volume and surface area of cylinders, cones and Spheres.
Calculate the length of arcs of Circles for any given angle.
Calculate the area of sectors and segments of circles.
Evaluate and analyse the solution of any given equation using iteration.
Understand key properties of graphs. Evaluate solutions to equations using understanding of graphs.



I will Understand

1. How to calculate the volume and surface area of cylinders, spheres and cones; I will be able to solve problems to identify the side (height or the radius) given the volume or the surface area and the other side.
2. Compute the length, the sector or the segment of any given fraction of a circle; how to work backwards and find the radius given an arc length or a sector area.
3. How to apply iterative methods as an approximation to the solution to a quadratic or cubic equation.